

1 **CLAIMS**

2

3 1. A network system, comprising:

4 a network server configured to maintain network access information  
5 corresponding to users authorized to access the network system;

6 a domain controller remotely located from the network server and  
7 communicatively linked with the network server, the domain controller configured  
8 to cache the network access information; and

9 the domain controller further configured to track individual users that  
10 request access to the network system from the domain controller.

11

12 2. A network system as recited in claim 1, wherein the domain  
13 controller is further configured to cache the network access information only for  
14 the individual users that request access to the network system from the domain  
15 controller.

16

17 3. A network system as recited in claim 1, wherein the domain  
18 controller is further configured to update the network access information at the  
19 domain controller for the individual users that request access to the network  
20 system from the domain controller.

21

22 4. A network system as recited in claim 1, wherein the domain  
23 controller is further configured to update the network access information at the  
24 domain controller for the individual users that request access to the network  
25 system from the domain controller within a defined time interval.

0046496-01100  
T03T0" 9549460

1  
2       5.    A network system as recited in claim 1, wherein the domain  
3 controller is further configured to receive a network access request from a user and  
4 validate the network access request with the network access information cached at  
5 the domain controller.

6  
7       6.    A network system as recited in claim 1, wherein:  
8       the domain controller is further configured to receive a network access  
9 request from a user and validate the network access request with the network  
10 access information maintained in the network server before the domain controller  
11 caches the network access information; and

12       the domain controller is further configured to receive a second network  
13 access request from the user and validate the second network access request with  
14 the network access information cached at the domain controller.

15  
16       7.    A network system as recited in claim 1, wherein:  
17       the domain controller is further configured to receive a network access  
18 request from a user and validate the network access request with the network  
19 access information maintained in the network server before the domain controller  
20 caches the network access information; and

21       the domain controller is further configured to receive a second network  
22 access request from the user and validate the second network access request with  
23 the network access information cached at the domain controller if the second  
24 network access request is within a defined time interval.  
25

0976496 "011301  
T00T0" 956496

1           **8.**     A network system as recited in claim 1, wherein:  
2           the network access information comprises identifiers to indicate network  
3 group memberships that an individual user is a member of in the network system;  
4 and  
5           the domain controller is further configured to maintain user objects  
6 associated with the individual users that request access to the network system from  
7 the domain controller, and cache the identifiers to the user objects.

8  
9           **9.**     A network system, comprising:  
10          a network server configured to maintain network access information  
11 corresponding to users authorized to access the network system;  
12          a domain controller remotely located from the network server and  
13 communicatively linked with the network server, the domain controller configured  
14 to cache the network access information; and  
15          the domain controller further configured to update the network access  
16 information at the domain controller for individual users authorized to access the  
17 network system from the domain controller.

18  
19           **10.**    A network system as recited in claim 9, wherein the domain  
20 controller is further configured to track the individual users that access the  
21 network system from the domain controller.  
22  
23  
24  
25

03764956-01301

1           **11.**   A network system as recited in claim 9, wherein the domain  
2 controller is further configured to cache the network access information only for  
3 the individual users authorized to access the network system from the domain  
4 controller.

5  
6           **12.**   A network system as recited in claim 9, wherein the domain  
7 controller is further configured to update the network access information at the  
8 domain controller for the individual users that access the network system from the  
9 domain controller within a defined time interval.

10  
11           **13.**   A network system as recited in claim 9, wherein the domain  
12 controller is further configured to receive a network access request from a user and  
13 validate the network access request with the network access information cached at  
14 the domain controller if the user accessed the network system from the domain  
15 controller within a defined time interval.

16  
17           **14.**   A network system as recited in claim 9, wherein:  
18           the network access information comprises identifiers that indicate universal  
19 group memberships that an individual user is a member of in the network system;  
20 and

21           the domain controller is further configured to maintain user objects  
22 associated with the individual users authorized to access the network system from  
23 the domain controller, and cache the identifiers to the user objects.  
24  
25

15. A network, comprising:
  - a global information server configured to maintain network information corresponding to users of the network;
  - a remote server communicatively linked with the global information server, the remote server configured to:
    - cache the network information;
    - track individual users that request access to the network from the remote server; and
    - update the network information at the remote server for users that access the network from the remote server.

**16.** A network as recited in claim 15, wherein the remote server is further configured to update the network information at the remote server for users that access the network from the remote server within a defined time interval.

17. A network as recited in claim 15, wherein the remote server is further configured to receive a user request to access the network and validate the user request with the network information cached at the remote server if the user accessed the network from the remote server within a defined time interval.

**18.** A network as recited in claim 15, wherein the remote server is further configured to track individual users that request access to the network information cached at the remote server.

1           **19.**    A network as recited in claim 15, wherein the remote server is  
2 further configured to receive a user request to access the network information  
3 cached at the remote server and validate the user request if the user accessed the  
4 network from the remote server within a defined time interval.

5  
6           **20.**    A method, comprising:  
7           maintaining, at a first site, network access information that identifies users  
8 authorized to access a network;  
9           caching the network access information at a second site; and  
10          tracking individual user requests to access the network from the second site.

11  
12          **21.**    A method as recited in claim 20, wherein said caching comprises  
13 storing the network access information at the second site only for the individual  
14 users that request access to the network from the second site.

15  
16          **22.**    A method as recited in claim 20, further comprising updating the  
17 network access information at the second site for the individual users that  
18 periodically request access to the network from the second site.

19  
20          **23.**    A method as recited in claim 20, further comprising updating the  
21 network access information at the second site for the individual users that request  
22 access to the network from the second site within a defined time interval.  
23  
24  
25



09764956-011301

1           **28.**    A method, comprising:  
2           maintaining, at a first site, network access information that identifies users  
3 authorized to access a network;  
4           caching the network access information at a second site for individual users  
5 that request access to the network from the second site;  
6           tracking individual user requests to access the network from the second  
7 site; and  
8           updating the network access information at the second site for the  
9 individual users that request access to the network from the second site within a  
10 defined time interval.

11  
12           **29.**    A method as recited in claim 28, further comprising validating a  
13 network access request from a user at the second site with the network access  
14 information cached at the second site if the requests is within a defined time  
15 interval.

16  
17           **30.**    A computer-readable medium comprising computer executable  
18 instructions that, when executed, direct a computing system to perform the method  
19 of claim 28.

20  
21           **31.**    A computer-readable medium comprising computer executable  
22 instructions that, when executed, direct a computing system to perform the method  
23 of claim 29.  
24  
25



1           **32.**     A method, comprising:  
2           maintaining, at a first site, network access information that identifies users  
3           authorized to access a network;  
4           caching the network access information at a second site; and  
5           updating the network access information at the second site for individual  
6           users authorized to access the network from the second site.

7  
8           **33.**     A method as recited in claim 32, further comprising tracking the  
9           individual users that access the network from the second site.

10  
11           **34.**     A method as recited in claim 32, wherein said caching comprises  
12           storing the network access information at the second site only for the individual  
13           users that access the network from the second site.

14  
15           **35.**     A method as recited in claim 32, further comprising updating the  
16           network access information at the second site for the individual users that access  
17           the network from the second site within a defined time interval.

18  
19           **36.**     A method as recited in claim 32, further comprising validating a  
20           network access request at the second site with the network access information  
21           cached at the second site if the request is within a defined time interval.

22  
23           **37.**     A computer-readable medium comprising computer executable  
24           instructions that, when executed, direct a computing system to perform the method  
25           of claim 32.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

**38.** A method, comprising:

maintaining, at a network global information server, network information corresponding to users of the network;

caching the network information at a remote server;

tracking users that access the remote server; and

updating the network information cached at the remote server with the network information maintained at the global information server for users authorized to access the network from the remote server, and that accessed the remote server within a defined time interval.

**39.** A method as recited in claim 38, further comprising:

receiving a user request to access the network; and

validating the user request with the network information cached at the remote server.

**40.** A method as recited in claim 38, further comprising:

receiving a user request to access the network; and

validating the user request with the network information cached at the remote server if the request is received within a defined time interval.

1       **41.**     A method as recited in claim 38, further comprising:  
2       tracking users that access the cached network information; and  
3       updating the network information cached at the remote server with the  
4       network information maintained at the global information server for users  
5       authorized to access the network information from the remote server, and that  
6       accessed the network information within a defined time interval.

7  
8       **42.**     A method as recited in claim 38, further comprising:  
9       receiving a user request to access the network information; and  
10      validating the user request at the remote server.

11  
12      **43.**     A method as recited in claim 38, further comprising:  
13      receiving a user request to access the network information; and  
14      validating the user request at the remote server if the request is received  
15      within a defined time interval.

16  
17      **44.**     A computer-readable medium comprising computer executable  
18      instructions that, when executed, direct a computing system to perform the method  
19      of claim 38.

20  
21      **45.**     A method, comprising:  
22      caching network security information at a network controller from a central  
23      network data store; and  
24      updating the network security information at the network controller for  
25      accounts authorized to access a network from the network controller.

1  
2       **46.**     A method as recited in claim 45, wherein said caching comprises  
3 storing the network security information at the network controller only for the  
4 accounts that access the network from the network controller.  
5

6       **47.**     A method as recited in claim 45, further comprising tracking the  
7 accounts that access the network from the network controller.  
8

9       **48.**     A method as recited in claim 45, further comprising tracking the  
10 accounts that access the network from the network controller, and wherein said  
11 caching comprises storing the network security information at the network  
12 controller only for the accounts identified when said tracking.  
13

14       **49.**     A method as recited in claim 45, further comprising updating the  
15 network security information at the network controller for accounts that access the  
16 network from the network controller within a defined time interval.  
17

18       **50.**     A method as recited in claim 45, further comprising:  
19 receiving an account request to access the network; and  
20 validating the request with the network security information cached at the  
21 network controller.  
22  
23  
24  
25

1       **51.**     A method as recited in claim 45, further comprising:  
2       receiving an account request to access the network; and  
3       validating the request with the network security information cached at the  
4     network controller if the request is within a defined time interval.

5  
6       **52.**     A computer-readable medium comprising computer executable  
7     instructions that, when executed, direct a computing system to perform the method  
8     of claim 45.

0976496-041304  
FOR Filing